

REMARKS

Applicant has carefully reviewed the above identified application in light of the Office Action dated January 21, 1998. Claims 66-80 have been added, replacing Claims 43-65, which have been cancelled without prejudice. Claims 66, 73 and 80 are the only independent claims. Favorable reconsideration is requested.

Claims 43-66 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent 5,398,311 (Seto) in view of U.S. Patents 4,897,638 (Kokunishi et al.) and 5,562,350 (Sakurai).

Cancellation of Claims 43-66 renders their rejection moot. In regard to the added claims, Applicant respectfully submits the following comments.

Independent Claim 66 is directed to an outline forming apparatus including means for storing pattern data which includes coordinate data corresponding to a first outline point of a pattern having a first weight, and vector information corresponding to the first outline point. The vector information indicates a path on which the first outline point moves to a second outline point of a pattern having a second weight. The apparatus also includes means for inputting weight information, means for moving the first outline point based on the input weight information and the stored vector information to obtain a position of a third

outline point, and means for generating outline data corresponding to a pattern having a weight indicated by the input weight information based on coordinate data of the third outline point.

By virtue of the structure recited in Claim 66, the present invention is capable of generating character patterns having a plurality of weights (i.e. thickness). The recited vector data provides flexibility in changing a pattern based on a desired weight. For example, Fig. 3 shows an example of a kanji character and vectors representing the movement path of each control-point when the weight is changed. The storage of this type of vector data allows the amount of pattern data that needs to be stored to be reduced.

Seto shows a character processing apparatus which generates outline points based on reference coordinates (R_x , R_y) and relative distance data (F_x , F_y) which are stored in a memory as shown in Fig. 2B. In Fig. 2B, "H" and "V" indicate line width (see col. 5, lines 24-30). A position of an outline point is represented by the relative distance from the reference coordinates (see col. 5, lines 40-49). When Seto performs enlargement/reduction of a character, the relative distances from the reference coordinates are determined in accordance with designated enlargement/reduction rate and the relative distance data. This arrangement limits the movement of reference outline points. For example, in Fig. 2C, points P0, P1, P2 and P3 do

not move in any direction, and points P6 and P7 do not move in the Y-direction. Thus, Seto lacks the flexibility of the apparatus of Claim 66 to change the position of outline points in accordance with designated weight.

In addition, as the Office Action points out, Seto does not teach storing path information indicating a moving path of outline points. Applicant submits that Seto also fails to teach or suggest storing vector information which allows outline points to be moved in accordance with a change of weight, as recited in Claim 66, and the benefits thereof.

As understood by Applicant, Kokunishi et al. relates to a method of generating character patterns with controlled size and thickness. Outline pattern data is generated based on stored skeleton pattern data and stroke thickness data. Kokunishi et al. merely teaches generating outline points from skeleton points, and there is no moving of outline points. For example, in Fig. 5, points 601-604 are skeleton points. Points 611-619 are outline characteristic points which are obtained based on the skeleton points and other parameters (see col. 11, lines 25-65).

The Office Action cites col. 9, lines 33-62 of Kokunishi et al. as disclosing "movement information including position information indicating relative positions of outline points". The cited section of Kokunishi et al., however, merely relates to various edge-side shapes (as shown

in Fig. 11B) which are selected based on parameters P1-P2. -- and does relate to moving outline reference points. In any event, nothing has been found in Kokunishi et al. that teaches or suggests storing vector information corresponding to a first outline point of a pattern having a first weight, which indicates a path on which the first outline point moves to a second outline point of a pattern having a second weight, as recited in Claim 66.

Sakurai relates to an apparatus that selects a vector font based on character size, in which the font type to be used is changed when a designated size is not within an effective size range of the font being presently used.

The Office Action asserts that Sakurai provides motivation to one of ordinary skill to vary the relative positions of outline points with respect to each other to vary the character style based on weight. The Office Action is apparently relying on col. 1, lines 20-33, of Sakurai which notes that when character patterns of the same style are formed regardless of size, small characters may become illegible and the shape of large characters may deteriorate. Sakurai merely states, however, that a suitable pattern is selected according to the size of the character to be formed (col. 1, lines 54-56). Applicant fails to see how this provides the required motivation.

Accordingly, Claim 66 is believed patentable over Seto, Kokunishi et al. and Sakurai, taken separately or in any proper combination.

Independent Claims 73 and 80 are method and memory medium claims corresponding to apparatus Claim 66, and therefore are believed to be patentably distinct from the cited prior art for the same reasons as Claim 66.

A review of the other art of record has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as references against the independent claims herein.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of the patentability of each on its own merits is respectfully requested.

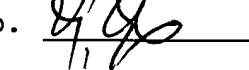
This Amendment After Final Rejection is believed clearly to place this application in condition for allowance and its entry is therefore believed proper under 37 C.F.R. § 1.116. In any event, however, entry of this Amendment After Final Rejection, as an earnest effort to advance prosecution and reduce the number of issues, is respectfully requested.

In view of the foregoing amendments and remarks,
Applicant respectfully requests favorable reconsideration and
early passage to issue of the present application.

Applicant's undersigned attorney may be reached in
our New York office by telephone at (212) 218-2100. All
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Respectfully submitted,


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